DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-001001
Date Inspected: 07-Dec-2007

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 630
OSM Departure Time: 1730
Location: Shanghai, China

CWI Name: Fu Yu Hong

Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**CWI Present:**	☑ Yes	☐ No		
Electrode to specification:	☐ Yes	☐ No	☑ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A	
Qualified Welders:	☐ Yes	☐ No	☑ N/A	**Weld Procedures Followed:**	☐ Yes	☐ No	☑ N/A	
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☐ No	☑ N/A	
				Approved WPS:	☑ Yes	☐ No	☐ N/A	
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A	

Bridge No: 34-0006
Component: OBG Second Weld Trial

Summary of Items Observed:

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present witnessing and performing 100% ultrasonic testing (UT) on the partial penetration joint (PJP) for the second weld trial scheduled for this project at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge on Bay # 1. ABF representative Mr. Art Peterson and Mr. David LaRue, and ZPMC representative Xue Hai Rong were at this location performing UT verifications. The photographs below show ABF and ZPMC representative performing UT verifications at the second weld trial on the partial penetration joints (PJP). The QA inspector had a conversation with ABF representative Mr. Art Peterson and Mr. David LaRue. ABF representatives relayed that the correction factor for the U-rib PJP UT evaluation increased from 1 mm to 1.2 mm.

Note: ABF/ZPMC increased from 1 to 1.2 mm UT correction factor, compensating the EDM notches and the actual average reflection from the PJP(found after breaking and comparing the test samples with the UT values).

WELDING INSPECTION REPORT

Item	Description	WBS	Dwg No.	Status
1	UT verifications on the PJP for the Second Weld Trial			

The QA inspector observed Mr. Art Peterson performing 100 % UT verifications on the partial penetration joint (PJP), at the 12 mm U-rib # U-75 weld joint # 5.

The QA inspector performed 100% ultrasonic testing (UT) evaluation after Mr. David LeRue on the partial penetration joint (PJP) at the 12 mm U-rib # U-75 weld joint # 6. The QA inspector concurred with the locations that Mr. David LeRue marked on the steel however the rating of indications are listed on locations 32 thru 35 on table below.

The QA inspector performed UT verifications to the weld # 9 from the U-rib U-05 after Mr. Xue Hairong. The QA inspector concurred with the locations where ZPMC found the indications, however the rating of the indications are listed on the table below, locations 39 thru 46.

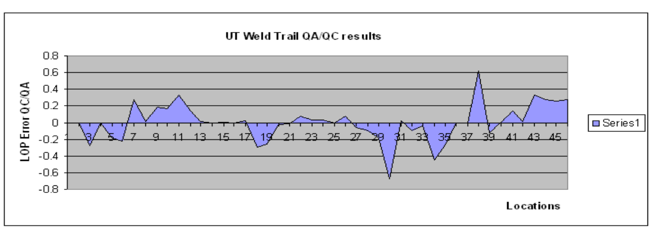
Note: The QA inspector observed that Mr. Xue HaiRong obtained higher reflected amplitud for the indications present on weld # 9.

The results from the QC/QA evaluation were as follows:

Mean Error between QC/QA :0.145022 mm

Standard Deviation from the Mean QA/QC error: 0.21759 mm

Range measured LOP by QC/QA: 2.25 to 3.6 mm.



	Location	Recorded by QA (mm)	QC Max. and Min. LOP values (mm)	Recorded by ZPMC/ABF (mm)	QA Max and Min Lop values (mm)	Deviation QA/QC (mm)	Error QC/QA (mm)
	1	2.57		2.57		0	0
Weld # 10	2	2.65		2.65		0	0
	3	3.6		3.325		-0.275	0.275
	4	2.8		2.8		0	0
	5	2.75		2.57		-0.18	0.18
	6	2.82		2.6		-0.22	0.22
	7	3.09		3.369		0.279	0.279
	8	2.55		2.569		0.019	0.019
	9	2.79		2.969		0.179	0.179
	10	2.49		2.66		0.17	0.17
	11	2.94		3.27		0.33	0.33
	12	2.43		2.569		0.139	0.139
	13	2.64		2.66		0.02	0.02
	14	3.12		3.11		-0.01	0.01
	15	2.82		2.83		0.01	0.01
	16	3.09		3.085		-0.005	0.005
	17	2.82		2.85		0.03	0.03
Weld # 1	18	3.27		2.97		-0.3	0.3
	19	3		2.74		-0.26	0.26
	20	3		2.97		-0.03	0.03
	21	2.7		2.68		-0.02	0.02
	22	3.09		3.17		0.08	0.08
	23	2.7		2.74		0.04	0.04
	24	2.7		2.74		0.04	0.04
	25	2.61		2.6		-0.01	0.01
	26	3.03		3.11		0.08	0.08
	27	3.27	Max 3.6 Min 2.25	3.21	Max 3.42 Min 2.482	-0.06	0.06
	28	2.7		2.6		-0.1	0.1
	29	3.09		2.91		-0.18	0.18
	30	3.51		2.84		-0.67	0.67
	31	3.21		3.24		0.03	0.03
	32	2.66		2.564		-0.096	0.096
Weld # 6	33	2.866		2.83		-0.036	0.036
	34	2.93		2.482		-0.448	0.448
	35	2.86		2.591		-0.269	0.269
	36	2.65		2.65		0	0
weld # 5	37	2.76		2.76		0	0
	38	2.8		3.42		0.62	0.62
	39	2.88		2.76		-0.12	0.12
	40	2.6		2.61		0.01	0.01
	41	2.514		2.65		0.136	0.136
Weld # 9	42	2.6		2.62		0.02	0.02
	43	2.25		2.58		0.33	0.33
	44	2.37		2.65		0.28	0.28
	45	2.54		2.8		0.26	0.26
	46	2.3		2.58		0.28	0.28
						0.21759284 Standard Deviation from the Mean QC/QA Error	0.145021739 Mean Error between QC/QA

Summary of Conversations:

As noted above.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Acuna,Alfredo	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer